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ABSTRACT

Intending to explore the interaction effects of self-esteem level and perceived program utility on the retention and cognitive achievement of adult basic education students, a self-esteem instrument, to be administered verbally, was constructed with content relevant items developed from and tested on a working class, undereducated, black, adult population. The problems concerned with the defining and measurement of four major variables in an adult program of basic education are presented: persistence, student's self-esteem, cognitive achievement, and student's perceived utility of the program. Measurement problems are discussed in detail, and it is concluded that further work is needed to develop more precise definitions and measurement of these selected variables. (HW)

A DISCUSSION OF THE MEASUREMENT AND STATISTICAL MANIPULATION OF SELECTED KEY VARIABLES IN AN ADULT BASIC EDUCATION PROGRAM[1]

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Introduction

In this paper the problems concerned with the defining and measurement of selected variables in an adult program of basic education will be discussed. The discussion of these variables is based on the investigator's experience in designing and implementing a study of the relationship of student self-esteem on educational outcomes in an adult basic education program.

First, the design of the study and the findings will be briefly presented. Secondly, the problems of conceptualizing and measuring the persistence, cognitive achievement, self-esteem, and student motivation variables will be discussed. Finally, conclusions are drawn relative to the need for further work in developing more precise definitions and measurement of these selected variables.

Report of the Study

The purpose of the study was to explore the interaction effects of self-esteem level and perceived program utility on the retention and cognitive achievement of adult basic education (ABE) students. A self-esteem instrument to be administered verbally was constructed with content relevant items developed from and tested on a working class undereducated black adult population.

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[1]Paper presented at the Adult Education Research Conference, Chicago, Illinois, April 18, 1974.

It was hypothesized that students with high self-esteem who perceived the program as having low utility would be early dropouts and further, that among students who judged a program as having high utility and who were retained for at least six months, cognitive gain would be predicted by the level of self-esteem.

		Perceived Program Utility	
		Low	High
Self-Esteem	Low	Retention but disengagement Low cognitive gain	Retention Moderate cognitive gain
	High	Dropout	Retention High cognitive gain

Two hundred black adult students received public assistance and enrolling in an ABE program with a reading level below 8.0 comprized the sample. Data were collected on self-esteem, perceived program utility, retention, attendance, reading scores, elven personal and four program characteristics over a seven months period. Students were interviewed in school or at their home if they had dropped out. The first hypothesis could neither be strongly rejected or accepted. The predicted esteem-utility interaction on retention did not occur at the required level of significance. Sex and esteem in interaction predicted significant differences on retention with high esteem females being retained and high esteem males dropping out ($p = .05$). When the effects of six covariates were equated, the sex-esteem utility interaction

predicted significant differences on retention partially supporting the hypothesis. However, high esteem-low utility females tended to persist while high esteem-high utility males tended to drop out.

The second hypothesis was inadequately tested since the dropout rate (67%) meant that there were not enough cases to meet the requirements of the statistical model. When all students having both pre and post scores (N = 107) were included, esteem was found to be positively but not significantly associated with cognitive growth (post-scores conditional to pre-scores).

The level of economic support was found to have significant positive effects on retention indicating that for some students the economic utility of the program was as salient as the academic vocational utility which was measured. Trends in the data indicated that a social utility (getting away from home responsibilities) was operating for some females. Age, years of schooling, and intelligence were found to have important effects on cognitive growth, causing the significant association of low utility with high cognitive growth not to be expressed when the effects of these variables were equated.

It was concluded that the conceptualization of utility was inadequate and that any study relating esteem and utility must take into account the different utilities the program offers to the student (academic, economic, social) and differences which relate to sex of the student. The legitimacy of the various utilities for the two sexes were suggested as having their base in values imposed by the greater society. It was also concluded that ABE programs must perform a socialization as well as an educative function if they are to carry out their legislative intent,

i.e., to serve the most undereducated adult and prepare these students for employment.

The Conceptualization and Measurement of Selected Variables

In the above study the four major variables were persistence, student's self-esteem, cognitive achievement, and student's perceived utility of the program. Persistence was divided into a retention and an attendance variable. Retention was initially conceptualized as either simply dropping out or persisting for at least six months after enrollment while attendance was simply noting the days present. The measurement of student self-esteem in this population was considered to be a major problem since most studies of undereducated adults tended to use either the highly generalized idea of self-concept or, if more narrowly defined concepts such as self-esteem were chosen, measurement was done by existing instruments developed for children and validated on middle class populations. Accordingly, it was decided that an instrument, specifically developed and validated on a working class minority group, would be developed to more adequately measure this variable.

Cognitive Achievement was to be measured by pre and post scores obtained by standardized reading tests. The Stanford Achievement Test was selected because it was being utilized in the system in which the investigation was carried out and because it is recognized as one of several well designed standardized reading tests.

The student's perceived utility of the program in which he was enrolled was initially seen as a way of measuring an important

concept known to be operating in programs for the poor and under-educated. That is to say that many such programs are perceived by students as being poorly developed, funded on a year to year basis, and not specifically designed for the special problems that the adult, who is poor and undereducated, presents. This leads to an assessment by the student as to whether the program is designed to help him reach his goals or is just another attempt to manipulate him for some larger societal goal.

During the investigation it became clear that the Retention and Perceived Program Utility (PPU) variable had been inadequately conceptualized. Specific problems were also encountered in the use of the SAT reading scores for statistical manipulation. The problems concerning the measurement of self-esteem were more adequately anticipated but many questions still remain regarding the measurement of this variable in this population.

A description of the problems which arose concerning these variables and how these problems were handled follows.

Persistence measurement problems

The problems in measuring retention were caused by (1) the movement of some students out of the program, back into the program, only for some to drop out again, all within the relatively short period in which the study was conducted, and (2) the fact that for some students the categories of active membership or withdrawn did not measure the legitimate reasons of why some people dropped out. The problems in measuring attendance were caused by the open enrollment policies of the centers and the fact that there was a quality of attendance which was not measured by simply adding up

the days a student attended school.

Therefore, the raw persistence data, both retention and attendance, were divided into two separate measures. The description of each of the four measures and how the raw data were converted to these measures are described first for retention and then for attendance.

Retention. - Retention was measured by two variables: membership status and persistence patterns. Membership status, defined as being formally enrolled in one of the four programs, had been originally conceived as having two categories, active or withdrawn at the end of the study. However, fourteen students did not fall clearly into the active or withdrawn categories. These students re-enrolled after dropping out for a period of time. Of these, some persisted to the end of the study and some withdrew. Accordingly, a third category of membership status was developed for these students, called transient. What these three membership status categories, active, transient or withdrawn, did not account for is why the student had withdrawn or his present state of engagement in the program if he persisted. This then was measured by a separate variable called persistence patterns. Persistence patterns measures an attempt to conceptualize the success of the program for satisfying the needs, wants or desires of the student. Persistence patterns was composed of four factors: (1) Did the student find the program useful and want to persist? (2) How successful was the system in supporting the student's desire to persist in school? (3) Were there compelling personal reasons external to the school situation which prevented the student from persisting? (4) Do the objective attendance data indicate that students who persisted were

in regular attendance? With these criteria as a basis for forming categories, the following continuum of Persistence Patterns was devised from low (1) to high (13).

1. Withdrawn; membership less than 20 school days in school with no compelling personal reasons for withdrawal or stated no utility; stated no utility and withdrew within 36 school days.
2. Withdrawn; membership 21 to 60 school days, no compelling personal reason for withdrawal.
3. Withdrawn; membership 60 to 134 school days, no compelling personal reason for withdrawal.
4. Withdrawn; program was useful; bureaucratic red tape reason for withdrawal.
5. Withdrawn; program was useful; compelling personal reason for withdrawal;
6. Withdrew-reentry or temporary withdrawal; bureaucratic red tape reason for withdrawal.
7. Withdrew-reentry or temporary withdrawal; compelling personal reasons for withdrawal.
8. Terminated by agency officials.
9. Persisted; attendance erratic, compelling personal reason for poor attendance.
10. Persisted; attendance ratio[1] low, i.e., 1/5, 1/6, 2/7, or lower.
11. Persisted; attendance ratio moderate, i.e., 2/5 or 3/5, 2/6 or 3/6, 3/7 or 4/7.
12. Persisted; attendance ratio high, i.e., 4/5, 4/6, or 5/7 or better. (In one case, transferred to a closer school.)
13. Terminated to a job, college, or training program.

Data to place students within a given category were obtained from student interviews, the student files, and in some cases from the teacher, attendance officer, or assistant principal. Forty students had been interviewed after their withdrawl and these students were asked directly why they had withdrawn. Students with

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[1]The attendance ratio variable is described under attendance later in this paper.

compelling personal reasons usually had these reasons documented in their student file, as were terminations for poor attendance or lack of progress which were initiated by the school or supportive services personnel, or transfers to a training program, college, or a job. For those students for which there was insufficient evidence concerning their withdrawal, an attempt was made to telephone the student for additional information.

Compelling personal reasons were limited to illness or pregnancy and, in one case, child care because the student phrased the problem as a moral need to spend time with her child. Bureaucratic red tape was conceived broadly to mean: inability of a caseworker to obtain funds for a student on time when funds were available, or arbitrary termination because of unexcused absence when the student claimed he had reported illness, or advising the student to stay home in order to expedite the processing of a check for carfare or babysitting.

The type of student who was difficult to classify was the General Assistance student who wanted to persist but had no money for carfare. These students were placed in Category 4 even though there was no way a caseworker could provide funds for the student. Still the case appeared more of a problem of the system's inability to serve the student than a compelling personal reason for withdrawal.

Persistence patterns then were measured by placing each student into one of 13 categories which represented a continuum of the success of the program for satisfying the needs, wants, or desires of the student.

Attendance. - Originally attendance had been conceived as being a simple quantitative count of the actual days a student was in school during the study. Since students were included in the sample who enrolled anytime in September or October clearly those who enrolled early in September had many more days to be in attendance than those enrolling the end of October.

Another problem which became evident only after the data collection was the differing patterns of regularity of attendance. For example, some students were retained for three months with regular attendance, while other students were retained for seven months but had erratic attendance the entire seven months.

Therefore the attendance data were computed to make two varabies, a quantitative variable called days present, and a qualitative variable called attendance ratio.

Days present represented an adjustment of the student's days in attendance taking into account the differing enrollment dates or, said another way, adjusting for days of membership in the program. The computation consisted first of numbering each day school was in session from September 7 to March 31. This meant that each date had a number from 1 to 135. A student enrolling September 7 could have attended 135 days. A student enrolling on the last school day in October (day 36), on the other hand, could have attended only 99 days.

The student's enrollment date was then entered as day 1 to day 36 and his membership was considered to be the difference between that number and 135, assuming that all students entering at below the eighth grade level of reading would be expected to stay in a

program at least six months. Now that each student had a measure of his own membership his actual days of attendance was divided by his days of membership. For example, a student enrolling on September 30 (day 17) had a membership of 118 days. If he actually attended school 59 days, his days present would be $\frac{59}{118}$ or 0.50, in other words his days present showed him to be there one-half the days he could have attended. If a student, as actually happened, enrolled on the morning of September 7 and was not there for the afternoon roll, he had a membership of 135 days and an attendance of no days, making his days present $\frac{0}{135}$ or 0.[1]

The second measure of attendance was called attendance ratio and represented the regularity of attendance each month of the study. Regularity of attendance in this case was defined as attending school 75 per cent of the days school was in session that month. This arbitrary figure of 75 per cent as defining regular attendance was selected since it was assumed that adults with many responsibilities might find it necessary for legitimate reasons to be absent several days in a one-month period. Seventy-five per cent suggests that an adult student ought reasonably to be able to attend three out of every four days of school or approximately three weeks out of every month.

The computation of attendance ratio was based on two figures. The number of months of membership were coded for each student,

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[1] In a few cases this conceptualization of attendance does not account for a student who was able to reach their personal goals prior to the 135th day and transferred to a job, another training program, or college. However, since this problem only affected four students in this sample, the computations were carried out as if every student would have needed to be in membership to day 135.

again assuming that the student would have had to remain through March to attain his goal. Accordingly then the student's months of membership became 5, 6, or 7 depending on his enrollment date.

Each month's attendance for each student was then analyzed to see if he did or did not attend regularly. For example, if there were 20 school days in a particular month students who attended 15 or more days were said to have regular attendance and students with 0 to 14 days in attendance were not considered to be in regular attendance.

Attendance ratio was then computed by dividing the number of months in which a student had regular attendance by the number of months he held membership. Thus a student enrolling September 4 who was in regular attendance four months had an attendance ratio of $\frac{4}{7}$ or .57. If the student had enrolled on October 1 and had four months of regular attendance his attendance ratio would be $\frac{4}{6}$ or .66. If this same student would have enrolled October 25, the resulting figure would have been $\frac{4}{5}$ or .80.[1]

Achievement measurement problem

The collection of achievement data presented several problems. These problems were the wide variability in testing dates, the use of five different levels of the Stanford Achievement Test, and the fact that many students were not in school long enough to have had a pre- and post-test.

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[1] Students enrolling between September 7 and September 24 were counted as having 7 months membership, September 27 and October 22, 6 months membership, and October 26 to October 29 as 5 months membership. In other words, if, because of enrolling late in the month there was less than one week of a month in which a student could have attended he was not counted for that month.

Since the testing periods varied so widely, the number of days between testing was documented for each student and used as a control variable in the statistical analysis.

The equating of reading scores across varying levels of achievement tests was a more difficult problem which was compounded by the fact that one center only used one section of the test, paragraph meaning, for testing purposes. Three types of scores, either normed or standardized, are available on the Stanford Reading Achievement Test, i.e., grade level, grade equivalent, or stanine scores. None of these scores were appropriate since any one of these scores on one testing level is not comparable to the same score on another testing level.

Several methods for equating scores across levels of tests have been developed, one of which is the equi-percentile ranking method. Rechase, using original testing data from the 1964 Stanford revision project, has developed a single scale for the 1964 Stanford Achievement Tests[1] and this scale was applied to the raw scores from the "paragraph meaning" section of the five levels of tests. Raw scores on the "word meaning" section were disregarded in the analysis since no scores were available from one center on this section and since the Advanced Level of the Stanford reading tests includes only scores on "paragraph meaning."

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[1] Mark D. Rechase, "A Comparison Between Two Methods for Scaling Test Scores" (unpublished Master's thesis, Syracuse University, 1971).

Problems in conceptualization of self-esteem

Concern with self-theory as an important variable in explaining behavior has not been particularly productive. In 1961, Wylie, reviewing some 400 research titles resulting from a renewed interest in the self, concluded that little had been done to further the theoretical basis for understanding the empirical relationships between a conceptualization of self and any other defined variable.[1] Wylie, in a highly systematic and analytical review of the research, raised questions regarding inadequate theoretical formulations, the design of the research, and the instruments used to operationalize the theory. Noting that phenomenologists may rightly infer that the subjective perceptions of an individual must be accounted for in assessing effects of the self, she also observed that phenomenologists have stretched constructs to cover so many inferred cognitive and motivational processes that their utility for analytical and predictive purposes has been greatly diminished.[2] Wylie suggests that one way of dealing with the problem is to attend "to more molecular inferred variables - for such characteristics as self-actualization, self-differentiation, and self-consistency have not led to enlightening research. By contrast, constructs such as self-acceptance or self-esteem, especially when referring to specific attributes, have yielded more manageable and fruitful research procedures."[3]

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[1] Wylie, The Self Concept

[2] Ibid., pp. 317-318.

[3] Ibid., p. 319.

Even with such delimitation, problems in definition arise, depending on how one conceptualizes self-esteem. For example, Cohen, operating from a need-based theory, defined "self-esteem as the degree of correspondence between an individual's ideal and actual concepts of himself."[1] Rosenberg, on the other hand, viewing self-esteem as an attitude, in many ways like any other attitude held by man, defined self-esteem as an attitude "about the self as object, the conceptions of the desirable which represent the individual's criteria for self-judgment."[2] Diggory, in still another formulation, defined self-evaluation (or self-esteem) as simply that the object being evaluated is a part, aspect or product of the very organism which is being evaluated, basing his theory on the idea that "self" is not to be found in the notion of formal identity, but rather is a type of reflexive relation or some function of a reflexive relation.[3]

Clearly, any investigator of the self must state his assumptions and clearly define his constructs. In this study, the following theoretical approach and assumptions underlay the conceptualization of self-esteem:

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[1] Arthur Cohen, "Some Implications of Self-Esteem for Social Influence" in The Self in Social Interaction, ed. by Chad Gordon and Kenneth Gergen (New York: John Wiley and Sons, Inc., 1968), p. 383.

[2] Morris Rosenberg, Society and the Adolescent Self-Image (Princeton: Princeton University Press, 1965), p. 15.

[3] Diggory, Self-Evaluation, p. 416.

1. Self is a subject (I) and an object (me). As an object, self is seen as a generalized abstraction which an individual has differentiated out of his phenomenal field and labeled me. This definition of self as an object does not imply formal identity in the scientific sense of the word, since self is also in process, but its relative stability and resistance to change allows the use of the term object in this more limited sense.[1]

2. Since self is an object, it may be perceived and reflected on by the self as subject, as well as by other persons, and attitudes about the self are generated from these perceptions and reflections just as attitudes are held about any object. From self-attitude comes a valuation of self either in terms of approval or disapproval, which indicates the extent to which an individual considers himself to be capable, significant, competent, and virtuous. This valuation of self or the personal judgment of worthiness that is expressed in the attitudes an individual holds toward himself is self-esteem.[2]

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[1] Ibid., pp. 63-68. Diggory has gone to some length to discredit the idea of empirical research based on the self as object. Although his formal distinctions are relevant when one assumes a behaviorist posture and have proven fruitful in relating self-evaluation to specified variables in laboratory experiments, it is not clear that the assumption of self as object (in a limited definition) limits the empirical validity of research based on this assumption.

[2] For a detailed description of self-esteem viewed as an attitude as a basis for empirical research, see Rosenberg, Society and the Adolescent Self-Image, pp. 3-15; Morris Rosenberg, "Psychological Selectivity in Self-Esteem Formulation," ed. by Chad Gordon and Kenneth Gergen, The Self in Social Interaction (New York: John Wiley and Sons, Inc., 1968), pp. 339-345; Stanley Coopersmith, The Antecedents of Self-Esteem (San Francisco: W.H. Freeman and Company, 1967), pp. 4-29.

3. It is assumed that it is characteristic of man to have positive self-attitudes, and the appraisal of self occurs by a continual evaluation of self on specific dimensions important to the individual and his society and that these evaluations are related to specific situations. The amount of success achieved on these specific dimensions and situations are the basis for self-esteem. For example, competency may be a dimension chosen by an individual as being important to him. This dimension will not be generalized to all settings; instead, it is highly specific. An individual whose concern with competency is primarily related to playing the violin may be totally indifferent to his level of competence in playing baseball. Therefore, to estimate any person's level of self-esteem, it is essential to identify what dimension and what situation the person has selected on which to base his self-esteem.[1] Coopersmith conceptualized four dimensions which might be employed to

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[1] Arguments supporting: (a) the assumption of the innate quality of positive self-attitudes can be found in Rosenberg, Society and the Adolescent Self Image, pp. 8-9; (b) the concept of dimensions being central and self-involving as a basis for self-esteem in Daniel Miller, "The Study of Social Relationships: Situation, Identity, and Interaction," in Psychology: A Study of Science, ed. by Sigmund Kock (New York: McGraw-Hill Book Company, Inc., 1963), V, 681-683; (c) how an individual uses mechanisms of selectivity among dimensions to maintain self-esteem in Rosenberg, Psychological Selectivity, pp. 339-345.

define success, i.e., power, virtue, competence, and significance.[1] It seems reasonable to assume, therefore, that by identifying sit uations in which a given population experiences success along the dimensions of power, virtue, competency, and significance, and by establishing the centrality of that dimension, that one can arrive at an estimate of the individual's level of self-esteem.

4. Self-esteem may be viewed as an antecedent or a consequent variable. Since self-esteem is herein defined as an attitude and since it has been shown to be relatively stable over time,[2] it is assumed that self-esteem is an antecedent variable which affects behavior in a highly differentiated fashion, depending on the conditions surrounding any experience. A number of investigators have demonstrated the antecedent relationship of self-esteem on anxiety leading to neurosis,[3] the selection of occupational roles and in determining role behavior,[4]

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[1] Coopersmith, Antecedent of Self-Esteem, pp. 38-42.

[2] Ibid., p. 10. Self-appraisals have been shown to be relatively stable over a period of several years by Coopersmith who, on a Self-esteem Inventory given to 30 fifth grade children, found a reliability coefficient of .88 on a test-retest after five weeks and .70 after a period of five years. Lecky has demonstrated that self-appraisals are relatively resistant to change due to the need for psychological consistency.

[3] Karen Horney, Neurosis and Human Growth (New York: Norton, 1950); Rosenberg, Society and the Adolescent Self-Image, pp. 149-167.

[4] Carl Bachman and Paul Secord, "The Self and Role Selection," in The Self in Social Interaction, ed. by Chad Gordon and Kenneth Gergen (New York: John Wiley and Sons, Inc., 1968), pp. 289-296.

the ability to repudiate power situations,[1] and the happiness of an individual and his effectiveness in meeting environmental demands.[2]

In summary then, self-esteem was conceptualized as a self-attitude which can be an antecedent condition of certain predictable behaviors. This self-attitude is based on self-appraisals of success on the dimensions of significance, competence, power, and virtue in situations which are selected as being relevant for the group being considered.

Proceeding on these assumptions a 16 item instrument was developed, which reflected actual statements by ABE students illustrative of Coopersmith's four components. Within the pilot study it was demonstrated that an ABE student was able to conceptualize a six point scale if each point on the scale was labeled. The completed instrument was read to the student by the investigator with the student responding according to a scale going from strongly disagree to strongly agree. The instrument proved to be an easily administered practical means of measuring self-esteem.

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[1] Cohen, "Self-Esteem and Social Influence," pp. 383-389.

[2] Coopersmith, Antecedents of Self-Esteem, p. 19.

Problems in measurement of perceived program utility

Program utility was conceptualized as the sum of the student's assessment of four components: subject matter utility, teacher utility, supportive services utility, and administration utility. In each component, utility was judged in terms of how useful that component was in the student's perception in helping him reach his short-term and his long-range goal.

Starting with the data generated by interviewing and discussion of the various program components with ABE students, the investigator developed a series of items within each component which appeared to elicit the utility of that component for the student.

Within the subject matter component, the focus was on actual program content. What subjects did the student study, were these subjects needed to reach the immediate or long-range goal of the student, what extra classroom activities were offered, and how did these activities support the main endeavor of the student?

Teachers were the concern in the second component. Assuming that the ability of the students to name their teachers was one indication of the teacher utility, items were developed which asked students to name their teachers, and to estimate the amount of time spent each day with each teacher named. The student was then asked to rate each teacher's usefulness in helping him reach his immediate or long-range goals.

The supportive personnel and services were the most diffuse of the components, since the adult student on welfare was dependent on the system's arrangements for helping him to attend school on

a full-time daily basis. Some of these services were referral, counseling (personal and vocational), child care, problem-solving, and financial support. These services were provided for by different agencies cooperating in assisting the student. In the system in which the research was carried out, the agencies involved were the city public school system, the county department of public aid, the department of vocational rehabilitation, and in some cases the state department of labor through the Work Incentive Program (WIN).

The question then became to what extent the student could identify the various personnel and services offered and how well he was able to utilize these services in accomplishing his personal goals. Within this category therefore items which dealt with referral, maintenance, and support of the student were devised which could be adapted according to the particular circumstance of each student, since not all students were recipients of all services.

As they had been asked to do with the teachers, students were asked to name the caseworker and all counseling personnel with whom they had come in contact. The student was then asked how many times in the last month he had talked to each person named, and to rate the usefulness of each person named in assisting him to reach his immediate and long-range goals.

The fourth and final component contained two elements: the student's assessments of the general administration of the program and how well the program prepared and helped him to achieve his long-range goal. Therefore the physical facilities, security, food service, availability of materials and equipment were rated by

the student as an overall assessment of their quality. The names of administrative personnel with whom the student had come in contact were then elicited and each of these persons were rated by the student on that person's usefulness in assisting the student in reaching his immediate and long-range goals.

The perceived articulation of the ABE program with other programs was obtained by items which asked the student questions such as: Did the student know anyone who had finished the program? If so, did this program help that sutdent do what he had set out to do? What was the next step for the student once he had finished this program? Who was available to help him take the next step? Had the student talked to the person named? If the student could go to any ABE program available in the city, would he choose the program in which he was now enrolled? Why?

Using this approach, it could be ascertained how much information the student actually had on the articulation mechanisms and whether he had used the information or assistance which he believed was available to him.

The data obtained from the PPUI, however, indicated that the conceptualization of utility was not adequate.

Program utility was conceived as being academic-vocational and an assumption was made that since ABE students in this population give highly vocational reasons for enrolling in ABE when interviewed, the students would rate the program's usefulness based on this type of utility and behave accordingly dependent on their level of self-esteem. What this study indicates is that the students in this population enroll in an ABE program for several reasons.

One reason supported by the findings in this study was immediate financial gain.

Although the level of economic support, intelligence, age and years of schooling which characterized the student were found to have important effects on retention and cognitive growth, none of these variables can explain the apparently absurd finding that in this population (1) women who have high self-esteem and see little usefulness in the program persist and are characterized by high cognitive growth, and (2) men who have high self-esteem and allegedly espouse a high rating of the academic vocational utility of the program were among the lowest persisters but also among the highest achievers in terms of improving their scores on reading tests in a patently short time period. No variables measured in this study accounted for these findings.

Some tentative suggestions for explaining this behavior were made. The retention of women may be related to some type of program utility other than the academic-vocational utility measured. Clearly society does not place pressure on women, especially those with young children, to become economically independent as it does for men. This societal expectation would allow women to attend an ABE program without the pressure of finding a job, if the women found some other utility in enrolling and attending. One such utility might be a social utility which would allow women to get away from the ouse, and their continual responsibility for their children, and to mingle with other adults. As long as these benefits were high enough, what the women thought about the academic quality of the program would not influence their attendance. It

might be further noted that this behavior might be thought to be more legitimate for women with higher self-esteem scores than for women who hold themselves in less esteem. That is to say, women with high self-esteem might dismiss the intended objectives of the program more easily than women with low self-esteem.

Whatever reason holds these high esteem women in the program, their achievement and cognitive gain in reading is among the highest of all sex-esteem-utility subgroups. It may be that these women are freer to participate and to learn since there is no strong vocational motivation to achieve and therefore less frustration with the program weaknesses. Except for high esteem males, all other students who perceive the program as having high academic vocational utility had lower cognitive growth. This finding may demonstrate that highly motivated students, after three to four months in the program, become frustrated with the incongruency of their high expectations and what the program can reasonably offer. That is to say, the higher expectations one has for what the program might do for him may lead to a lower gain score in the long run because of the development of this sense of frustration, i.e., a type of disenchantment occurs.

The finding that high esteem males who drop out despite an allegedly high opinion of the usefulness of the program is difficult to explain. These students are high achievers even though their retention in the program is short. It was found that of the six men who comprised this group, five had expected to stay in the program for only three months. It may be that high esteem black males who have unrealistic expectations of the length of time they might reasonably expect to be in the program either drop out when

the time they have specified has been reached regardless of their goals or, upon reappraisal of the time necessary to reach their goals, decide on some alternative to ABE.

In summary, then, a number of problems rel-ting to the four major variables have been discussed. The problems in measuring retention and attendance were thought to be finding adequate quantitative measures as well as accounting for quantitative differences in these measurements.

Problems surrounding cognitive gain were summarized as variations in external procedures to the test, difficulties in utilizing varying levels of tests which are not comparable, and the choice of statistical procedures in computing cognitive gain.

The discussion of self-esteem and perceived program utility was limited to problems in conceptualizing these variables and in the case of the PPUI the severe limitations of the assumption that academic-vocational motivation was <u>the</u> reason for a student enrolling in ABE was demonstrated.

Conclusions

Retention

The measurement of retention, which appears so simple, proved to be very complex. It is clear that the concept that students either are retained or drop out is simplistic. In this study the stop-out[1] or transient student made up seven per cent of the sample. For some adult students either personal or external factors required the student to stop-out.

On the other hand, dropping out may mean a number of things: It may mean being put out. It may mean that a student's personal goals were accomplished and he finished. It may mean that he wanted to persist but was frustrated by bureaucratic red-tape or a change in policies governing his economic support arrangements.

The problem in measuring persistence relates to this imprecise definition of dropping out. The findings of this study indicate that because of institutional policies, the same student could have been defined as a drop out, a stop-out, or a potential persister.

Further, depending on given social policies at any one time the occurrence of dropping out varies. Illustrative of this fact is that a man in perfect attendance who was found engaged in self-study at home, dropped out because carfare and lunch money were stopped as a policy of the agency that referred him. In another case, because of the lack of personnel, a student seemingly highly motivated to attend was told to stay home until her rent check caught up with her new address. She was put out of her apartment due to her late rent check and was away five months before getting the problem settled.

Another variation in the data occurs because of the variability in the general social conditions at any one point of time. For example, when unemployment was high, as it was during this study, the pool of students wanting to enroll was high. When there are people waiting to enroll, the effort of personnel to retain the student already enrolled is visibly less pronounced.

All these variations cause difficulties in measuring retention. The variable, persistence patterns, appears to be a more useful way to conceive of retention. As utilized in this study, however, the measure was not definitive since it was constructed after the data were collected and tended to measure more adequately why students dropped out than why students stayed in.

Attendance

The problem regarding the measurement of attendance is as thorny an issue as the measurement of persistence. First of all, attendance is contingent on being retained. Therefore, strict policies on attendance as prerequisite to active enrollment causes differing attendance data depending on the definition of retention. Secondly, the policy of defining attendance was found in the same system to vary widely among administrative units within the system. In some centers attendance meant only that at some point in the day a student had been in school. In other centers attendance was more strictly enforced and excessive tardiness, class cutting, or leaving early meant potential termination.

Another aspect of attendance which was not adequately measured in this study was regularity of attendance. The attendance patterns indicate that some students for the period they

persisted had high regular attendance. In other cases, students who persisted the entire time of the study did not have one month in which attendance was regular. It could be observed that attendance for some students was a function of attending minimally in order not to jeopardize their active enrollment. Accordingly these problems in the measurement of retention and attendance must be adequately considered prior to generalizing across or within ABE programs.

Cognitive gain

The validity of the measurement of cognitive gain through the use of standardized reading tests is a widely discussed problem but one which has special features when used in an ABE program. The selection of a standardized test presents the first problem since few tests have been designed especially for adults and therefore present difficulties to investigators in wishing to utilize them for research purposes.

In this study the administering of entry and subsequent reading tests varied with administrative policy. In some cases students were not tested until after a two-week orientation period and by this time some students had dropped out. There were cases in which an inappropriate level of test was given and the student's score then was in a less valid range of scores but was the only available score to be utilized. In still other cases the policies on retesting were so different that some students had several subsequent test scores while another student persisting the same length of time had one or more depending on whether they were present on the day school-wide testing occurred.

When one begins to utilize the scores, comparability is not only impaired by the variations within the testing situation but also there is a lack of comparability between levels of tests. In the case of the SAT, research on the original testing population had been done and equated scores were available for the paragraph meaning section of the test. However, other tests may not have these equated scores which were available on the SAT used by this researcher.

Another problem relative to measuring growth is the appropriate statistical analysis to use. There is still little agreement among researchers as to whether it is appropriate to utilize simple gain scores or to take account of the size of the pre-score in measuring the size of the difference between pre- and post-score. Other ways of measuring cognitive growth have been suggested all of which manipulate the raw scores. In this study when raw gain scores were used the association between the levl of utility and cognitive gain was significant, but this was not the case when the size of the pre-score was accounted for statistically to develop a growth score.

If one uses an analysis which utilizes post-score conditional to pre-score than a limitation of this method is that there are no observed or estimated mean scores with which to do Sheffé tests or to study interactional patterns.

It is concluded that the problems associated with measuring cognitive gain are great, and until these problems can be solved it becomes important to state the conditions of the data collection process and analysis precisely so that the limitations and conditions for replicating the study are clear.

Self-Esteem

The findings on the normal distribution of self-esteem in this population support the findings of Renbarger[1] and Johnson.[2] It can be concluded that there are wide variations of self-esteem among ABE students and assuming low self-esteem in this population may be more of a function of value differences between ABE personnel and their students than actual low self-esteem, so often ascribed generally to ABE students.

Teachers of ABE students within the pilot study were found to associate self-esteem level with a set of preferred values, that is to say, that students who conformed to a set of middle class values (sociable, dependable, and valuing a work-education ethic) were considered to have high self-esteem. Although these values were sometimes congruent with high self-esteem in this population, this was not always so and the student who had a strongly defined identity associated with his blackness, tended to be more aloof, and was more cynical regarding the virtues of hard work or the values of an education, was in specific cases misjudged by his teachers on his high level of self-esteem, as measured by the SEI.

The development of the SEI based on the formulations of Coopersmith was accomplished with reasonable estimates of reliability

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[1]Ray Renbarger, "An Experimental Investigation of the Relationship between Self-Esteem and Academic Achievement in a Population of Disadvantaged Adults." (Unpublished Ph.D. dissertation, Michigan State University, 1969).

[2]Robert Johnson, "A Study of Self-Esteem and Related Background Factors of New Reformatory Inmates." (Unpublished Ph.D. dissertation, Michigan State University, 1968).

and validity given the constraints of designing a short, verbally administered test. The alleged value of this instrument is that the conceptual base is wider than Coopersmith's own instrument and that it was developed with items relevant to the undereducated working class adult rather than with children or a middle class adult population. However, it remains to be seen whether the SEI has higher predictive validity in this population than the instruments utilized by other investigators in ABE.

Perceived Program Utility

The measurement of program utility presents a number of problems. It can not be assumed that the motivation for attending an ABE program is to gain academic skills preparatory to vocational training. However, since this academic vocational objective is the intent of the legislation and, in this study the primary reason for enrolling according to the student, it seems apparent that other motives might be somewhat harder to assess. The economic and the social utility of the program are two motivations which can be assumed from this study and both of these are sensitive areas in which to obtain information.

Since some students either had or were given unrealistic expectations of what they might be able to accomplish in the program, the interpretation of the dropping out among students who gave a high rating to the usefulness of the program was in terms of a disenchantment factor. If in truth disenchantment is a major problem relative to retention, then the timing of the interviews becomes an important source of variation in the data. It would seem therefore that ratings of program utility must be made for at

least part of the sample at a later as well as an earlier time after their enrollment.

Whatever the extent and complexity of the problem the variable, perceived program utility, is conceptually robust and holds much promise, not only in understanding the persistence and achievement behavior of students, but also in redesigning program components to build on these motivations. It is clear, however, that the reformulation of the PPUI is necessary to more adequately measure these dimensions.